DOCUMENT RESUME

ED 172 153 CS 004 857

AUTHOR Stephenson, Donald; Ward, Barbara S.
TITLE Strategies for Increasing Reading Comprehension in Vocational Education Classes.
PUB DATE Oct 78
NOTE 11p.; Paper presented at the Annual Meeting of the Great Lakes Regional Conference of the International Reading Association (3rd, Cincinnati, Ohio, October 12-14, 1978)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Content Reading; *Language Skills; Postsecondary Education; *Reading Comprehension; *Reading Skills; *Vocational Education

ABSTRACT

Vocational education students are characterized by the fact that they tend to lack role models and subsequently lack coping strategies. In addition, they lack educational planning. Many are casualties of a prior hope in that they have already dropped out of or have been pushed out of academic programs. At the same time, occupational training programs contain a complex and unique set of skills and language. This juxtaposition requires special help for students trying to learn the new technical language for their areas. First, the material must be approached with an attitude that recognizes the demands of the text and the needs of the students. Second, the sequence of learning must be maintained and thoroughly considered so that concepts are built and presuppositions are kept to a minimum. Third, the language of vocation is unique and must be respected with precise interpretation in order to maintain the philosophy of process and product. (TJ)

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PAPER PRESENTED AT THE

THIRD GREAT LAKES REGIONAL CONFERENCE

OF THE INTERNATIONAL READING ASSOCIATION

Strategies for Increasing Reading Comprehension in Vocational Education Classes.

CINCINNATI, OHIO

OCTOBER 12-14, 1978

DONALD STEPHENSON, PROFESSOR

BARBARA S. WARD, LECTURER

UNIVERSITY OF WISCONSIN-STOUT

MENOMONIE, WISCONSIN

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Dr. Stephenson speaks:

Both Mrs. Ward and I are faculty members at a university which is known around the world for training vocational educators. As such, we have become keenly aware of many of the problems facing vocational educators today. Vocational education has seen some dramatic changes in the past ten years. Many new facilities have been built, curriculum has been modernized and the composition of the student body is changing. Students are becoming older and a much greater percentage of them are high school graduates. Today over 40% of the student enrollment in vocational education involves students who are seeking instruction beyond the high school level.

Two things that we have learned characterize vocational education students is that first, they generally lack role models and subsequently find themselves lacking coping strategies. In short, their ability to cope with ambiguity and frustration seems to be less than that of their counterparts in academic programs. Secondly, there appears to be a lack of educational planning on the part of many vocational educational students.

If you're thinking that that statement is true of most students, it is. The distinction is that while academic programs allow for a gradual transition from general education to more career oriented education, vocational programs begin immediately with the development of occupational skills. Subsequently, the several year "career shopping trip" associated with academic programs simply isn't found in vocational education. In addition, it is rather well known that many more students move from academic programs to vocational programs than the reverse. One might guess that a considerable number of vocational students are already casualties of a prior hope, that is, they have already dropped out or been pushed out of academic programs.

One more obvious and inescapable fact is that today we work and live in a far more technically sophisticated and complex world than we did only a decade ago. If you have talked recently to a repairman about your tempo coupler or your vacuum modulator you know just what I mean. With the increase in technical complexity of our society has come an increasingly technical language. This language is largely related to understanding the relationship between process and product. Vocational education is, for the most part, directly aimed at the learning of knowledge and skills related to a product-process relationship. Forbidding as the language of technicians may sound to the layman, it is essential to specialists that they have a means of clear communication between themselves. The necessity for a distinct and specific language is among the early shocks that come to students of vocational education.

I hope by now you have followed me to the crux of the problem; occupational training programs that contain a complex and unique set of skills and language coupled together with students who have traditionally lacked success at both planning for and coping with academic experiences.

The benefits of having better trained, and more highly skilled technicians should be obvious to all of us. Part of the key to this goal includes helping vocational students to become better readers. I don't have to tell any of you about the merits associated with better reading in general. In this case however, in addition to those general benefits is the potential for better trained workers which means quicker, better and less costly services for people like you and I.

Mrs. Ward speaks:

We are investigating the problem of language comprehension in the vocational text, to do this we must recognize that each vocation has its own language. It has been accepted for a long time that vocabularies are distinct to each subject. I have become convinced that there is a grammar particular to technologies and therefore to the vocations.

Dawson suggests that writing styles that violate conventions are hard to read and thus predictable conventional language increases readability. Vocational language frequently violates oral language conventions.

Vocational language is highly fact dense - this encourages (but doesn't guarantee) short paragraphs. Because these paragraphs are fact dense the main idea is impled rather than stated.

Graphic media became crucial to understanding because little space is alloted to elaboration. Elaboration is just not part of the style.

Passive voice is frequently used, and as Lackstrom, Strevens, and others contend, directs the intent of the text.

Underlying the rest of the challenge is the problem of precision. Vocational language requires a language precision of the student that is not demanded in any other facet of his/her life.

The student's daily language is in the vernacular, a system of language imprecise according to the purists. More important is that the vernacular which communicates fairly well in people does not communicate well in print. The student must adjust to a new and somewhat different language.

There is confusion because this new language has the same sounds (phonemes) and appearance (graphemes) as the familiar language. What must be recognized is that this language, as is true of every other language, is the vehicle for a philosophy.

If you intend to be a plumber, you must think plumbing, and (very importantly) speak and understand plumbing language.

So - what do we do about it?

First: The attitude with which the material is approached must recognize both the demands of the text and the needs of the students. We know that having purpose in reading greatly increases comprehension of the text. But in vocational education "hands on" is the by word. The purpose is insignificant if there is not an immediate, purposeful and rewarding application. Consistently the purpose for reading should be successful application. Therefore reading should be planned and assigned with not only a purpose, but also a goal. This implies Process and Product: the curriculum content of Vocational Education. (I'll get back to process and product later.)

I have an ulterior motive in selling "purpose plus application." I believe that with enough use of purposeful, rewarding reading we can convince reluctant readers that reading is valuable for its practical rewards. No mean trick!

Second: The sequence of learning must be maintained and thoroughly considered. The texts are usually so busy with facts they fail to adequately consider the building of concepts. It is not unusual to pick up a vocational text, open to a page and find one densely fact filled page where two or three paragraphs have enough concept material for at least one lesson. My favorite example is electronics. If you don't learn the concept of magnetism you can't do very well with electron flow, and quantum mechanics becomes almost impossible to understand.

What further clouds the issue is known as "presupposition." The author supposes that the student understands the abstract concepts that the author accepted long ago. Therefore the author fails to give a complete explanation.

Certainly we all make presuppositions in communication. I have presupposed that each of you understands English, and that further you understand something of the processes in current educational practice. I must assume some suppositions are true or I would not attempt to communicate.

Here is an example of presupposition from Stockel's Auto Mechanic's Fundamentals, which is generally considered a good text.

"VENTURI

> By building a restriction (venturi) in the air horn, the air will be forced to speed up where it strikes the venturi. As the air suddenly speeds up, it tends to be "stretched." In other words a vacuum is created. The more the air speeds up, the stronger the vacuum. This vacuum will be strongest in the throat of the venturi but will still exist for a short distance below it."

This makes an unwarranted presupposition.

It is the teacher's task to preview student reading material to ascertain which presuppositions are warranted and which leave students out on a limb.

Time and energy invested in discovering and clarifying presupposition is well spent. Certainty that students do understand the "basics" becomes a safeguard against future complications.

Third: Vocations are geared to process and product. So is the discourse in the text. Here is where the author's text, his communications media, and the reading student clash. If we are aware of the probability of these clashes we can plan against such incidents and guide the students toward success.

Vocational emphasis is on the process first with the product as evidence of the process. This involves a good deal of description and directions. Frequently these descriptive passages are in the passive voice. One of the qualities of the passive voice is that it reverses standard English word

order. Usually in English we expect the sentence to begin with the important item, the subject. We continue on predicting (mentally of course) the activity, state, or predicate nature of the subject. Finally we anticipate the object of the message. And so it continues as long as we are in the active voice.

The passive voice reverses everything. The object occurs first in the sentence, thereby gaining importance. The verb is weakened by the addition of an auxilliary. The subject becomes an afterthought, or worse yet, is religated to "it."

Eventually what is implied is that the product is more important than the process. That is a very misleading concept. For example, "The metal is shaped by passing it through a combination of rolls with groove patterns to produce the required shapes." The teacher must interfere through questioning techniques to return the subject to its realm of importance.

The imperative voice is most frequently used in directions. Occassionally the passive imperative (if I may coin a term) is used.

"To fill the pen:

Take it to the bottle and touch the quill filler between the nibs. Be careful not to get ink on the outside of the blades..."

In either case the subject (you) is always implied, not stated. The student is left with the impression that the directions are being given to a robot or a zombie. S/He doesn't view him or herself as either of those mechanical operators. The student must be reminded that s/he is the active ingredient in the instructions. We forget that in the oral imperative the individual giving the directions is looking at the individual receiving the directions. That bit of paralanguage transmits the implied "you."

Pronoun referents also add confusion. This quotation from Modern Carpentry by Wagner exemplifies the problem.

> "Place the router base on the work, template, or guide, with the bit clear of the wood, before turning on the power. Hold it firmly when turning on the motor to overcome starting torque."

Unless the reader is already familiar with routers s/he has a choice of eight nouns as referent to the pronoun. Unfortunately none of those referents would be accurate for safety. Handles aren't mentioned.

Lets return to the need for precision. The old story goes that the child requested: "Can I be dismissed for recess." To which the teacher replied "I have no doubt that you are capable of leaving this room. The real question is whether you may or may not." The vernacular does not require precision of modals. They are simple grammatically, however, as Dawson suggests the abstract quality of their meaning and the possible ambiguity of their interpretation make modal verbs very difficult to process. Will, for example, indicates prediction while would, which also predicts, is conditional.

Connective cues are in the same realm as modals. They clue the intent of the passage so that the reader can accurately interpret the consequent information. Strevens arranged these into seven (7) notional classes:

1) Linking and Logical Sequence of Ideas
2) Paraphase and Apposition
3) Causality
4) Opposition or Contrast
5) Restriction
6) Hypothesis
7) Enquiry

In order to increase reading comprehension in vocational areas we must approach it from three philosophies:

1) Purpose plus application equals rewarding reading.

2) The sequence of learning must be maintained.

3) The language of a vocation is unique and must be respected with precise interpretation in order to maintain the philosophy of process and product.

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